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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,533	08/01/2001	Marcos C. Tzannes	081513-75	3837

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EXAMINER	
MUNOZ, GUILLERMO	

ART UNIT	PAPER NUMBER
2637	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/918,533	TZANNES, MARCOS C.	
	Examiner	Art Unit	
	Guillermo Munoz	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 August 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/5/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "associating of the networking timing reference bits, at a modulation layer, on one or more DMT symbols" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

Instant Application characterize an ADSL DMT transmitter as having three layers, note Fig. 1, comprising a modulation layer, a Framer/FEC layer, and an ATM TC layer. Instant Application summarizes the invention as inserting the NTR signal in the modulation layer, note page 9, line 19. Additionally, Instant Application teach "NTR signal may or may not be coded with the FEC coding scheme" in page 25, line 10. The FEC unit is illustrated as part of the Framing layer in Figure 3 elements 124 and 124', however, instant application asserts the NTR information is not introduced until the modulation layer (e.g. element 310 of figure 3). It is unclear how the NTR signal may be FEC encoded. Examiner requires clarification as to where the NTR signal is introduced within the transmitted signal path and how FEC of the NTR is made possible.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI TIE1.4 "Very-high-speed Digital Subscriber Lines System Requirements" (VDSL SR) in view of Chow, Jacky S. "Superframe-Based Bit Allocation Algorithms For DMT Systems" (cited in IDS received July 5, 2002) in further view of Van Der Putten et al..

Regarding claim 1; VDSL SR disclose in Figure 2 almost all the claimed subject matter "associating at a modulation layer the network timing reference" in claim 1 as follows. VDSL SR show the NTR signal introduced into the PMD core modem, without being processed through the Framing/FEC interleaved and none-interleaved circuitry, note Fig. 2. However, VDSL SR do not address the modulation process implemented in PMD core modem circuitry.

Chow teach a SM-DMT transceiver system wherein different Bit tables are assigned to different subgroups of DMT symbols within a superframe for modulation of upstream and downstream traffic, note pages 2802-2803. However, Chow does not explicitly teach associating the symbol subgroup with the NTR information.

Van Der Putten et al. teach a similar DMT transmission system wherein the NTR information is embedded into a data frame using fast byte fields, note paragraph 0015 and 0036.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement ANSI TIE1.4's PMD core modem with Chow's SM-DMT modulation method, since Chow suggest on page 2801, that the result of this would improve the performance of the system. It would have been further obvious to modify Chow's superframe with Van Der Putten et al.'s teaching of embedding the NTR information within the frame, since Van Der Putten et al. suggest in paragraph 0003, that the result of this modification would reduce complexity of the communications system.

Regarding claim 2, Chow further teach the claimed subject matter, note Abstract.

Regarding claim 3, Van Der Putten et al. further teach the claimed subject matter, note paragraph 0016.

Regarding claim 4, Chow further teach the claimed subject matter, note page 2802.

Regarding claim 5, Chow further teach the claimed subject matter, note page 2802.

Regarding claim 6, Van Der Putten et al. further teach the claimed subject matter, note paragraph 0016.

Regarding claim 7, It would have been obvious to one having ordinary skill in the art at the time of the invention to transmit the symbol group having NTR information at a higher margin, since Van Der Puttin suggest that ATM specifications require the information throughout the network and transmitting at a higher margin would insure the information is received without error.

Regarding claim 8, see claim 1.

Regarding claim 9, see claim 2.

Regarding claim 10, see claim 3.

Regarding claim 11, see claim 4.

Regarding claim 12, see claim 5.

Regarding claim 13, see claim 6.

Regarding claim 14, see claim 7.

Regarding claim 15, see claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Munoz whose telephone number is 571-272-3045. The examiner can normally be reached on Monday-Friday 8:30a.m-4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Guillermo Munoz

GM
December 6, 2004

JEAN B. CORRIELUS
PRIMARY EXAMINER
12-09-04